

PATENT
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Claims 1-21 are pending in this application. Claims 1-21 are rejected. No new matter has been added. It is respectfully submitted that the pending claims define allowable subject matter.

As an initial matter, Applicants have amended the claims to replace "twisted portion" with "cross-over portion" as required by the Office Action. This amendment is supported by the specification as filed (see, for example, paragraph 0035 of the specification).

Claims 1-21 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Mori (U.S. Patent 5,389,880). Applicants respectfully traverse this rejection.

Mori describes a magnetic resonance imaging apparatus having surface coil assemblies comprising an 8-shaped coil and a rectangular coil (abstract). Specifically, the apparatus of Mori combines a plurality of RF coil assemblies each having an 8-shaped surface coil 10 and a rectangular surface coil 12. The coil assemblies are one-dimensionally arranged in a z-axis direction to form an RF coil group for an MR phased array. Each of the RF coil assemblies is a quadrature surface coil assembly combining the 8-shaped coil 10 and the rectangular surface coil 12. The 8-shaped surface coil 10 has a sensitivity in an x-direction RF magnetic field near the spine array of a patient, and the rectangular coil 12 has a sensitivity in a y-direction RF magnetic field at the same position (column 5, line 65 to column 6, line 17).

Claim 1, as amended, recites a coil arrangement for a medical imaging system comprising "a plurality of adjacent coil elements for a medical imaging system wherein at least one of the plurality of coil elements is between other ones of the plurality of coil elements" and "a plurality of cross-over portions interconnecting each of the plurality of coil elements, and wherein a cross-over portion is provided generally centered between each of the plurality of coil elements." Mori fails to describe or suggest such a coil arrangement.

Mori describes a plurality of adjacent coil assemblies with each assembly having a single 8-shaped coil element and a single rectangular surface coil element adjacent to the 8-shaped coil element. Thus, each assembly includes a single cross-over portion. Further, none of the adjacent coil assemblies are interconnected with a cross-over portion. In contrast, the coil arrangement recited in claim 1 includes a plurality of adjacent coil elements wherein at least one of the

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plurality of coil elements is between and interconnected to each of the other ones of the plurality of coil elements with a cross-over portion. Mori does not describe or suggest such a coil arrangement. Each of the assemblies of Mori includes an 8-shaped coil element having a single cross-over portion. However, none of the 8-shaped coil elements are interconnected with other 8-shaped coil elements or rectangular coil elements by a cross-over portion. Accordingly, only single 8-shaped coil elements are described having a single cross-over portion with no additional cross-over interconnection to adjacent coil elements. Thus, Mori does not describe or suggest a coil arrangement as recited in claim 1.

Claims 2-11 depend from independent claim 1. When the recitations of claims 2-11 are considered in combination with the recitations of claim 1, Applicants submit that dependent claims 2-11 are likewise patentable over Mori for at least the same reasons set forth above.

Claim 12, as amended, recites a coil array for a medical imaging system comprising "a second coil array portion having a multi-lobe saddle train with at least one lobe between two other lobes, the multi-lobe saddle train comprising a plurality of cross-over portions and wherein a cross-over portion is provided between each adjacent lobe of the multi-lobe saddle train, the cross-over portions located a distance from each of an edge of adjacent lobes." Mori fails to describe or suggest such a coil array.

In contrast to the coil array recited in claim 12, as amended, the phased array of Mori includes adjacent coil assemblies each having a single 8-shaped coil element with a single cross-over portion. There is simply no description or suggestion of a multi-lobe saddle train with one lobe between and interconnected to two other lobes with cross-over portions. The coil assemblies of Mori only include single coil elements and not a multi-lobe saddle train having lobes interconnected with cross-over portions. Accordingly, Mori does not describe or suggest a coil array as recited in claim 12.

Claims 13-19 depend from independent claim 12. When the recitations of claims 13-19 are considered in combination with the recitations of claim 12, Applicants submit that dependent claims 13-19 are likewise patentable over Mori for at least the same reasons set forth above.

Claim 20, as amended, recites a method for providing coil arrays for a medical imaging system comprising "providing a cross-over portion generally centered between each of three

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contiguous coil elements of the plurality of coil elements." Mori fails to describe or suggest such a method.

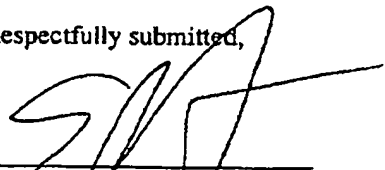
In contrast to claim 20, as amended, and as described in more detail with respect to claim 1 above, a cross-over portion is not shown, nor described or suggested, generally centered between each of three contiguous coil elements of a plurality of coil elements. The coil assemblies of Mori include single coil elements and not three contiguous coil elements interconnected with cross-over portions. Accordingly, Mori fails to describe or suggest the method recited in claim 20.

Claim 21 depends from independent claim 20. When the recitations of claim 21 are considered in combination with the recitations of claim 20, Applicants submit that dependent claim 21 is likewise patentable over Mori for at least the same reasons set forth above.

Thus, for at least the reasons set forth above, Applicants respectfully request that the 35 U.S.C. § 102(b) rejection of claims 1-21 be withdrawn.

In view of the foregoing amendments and remarks, it is respectfully submitted that the prior art fails to teach or suggest the claimed invention and all of the pending claims in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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